AMENDMENTS TO THE CLAIMS

1. (Withdrawn) A method, comprising:

applying phosphor particles to a substrate;

submerging the substrate into a binder solution; and

removing the substrate from the binder solution at a predetermined rate.

2. (Withdrawn) The method of claim 1, wherein removing the substrate from the binder solution at a predetermined rate further comprises:

removing the substrate from the binder solution at a rate of about one inch per minute.

3. (Withdrawn) The method of claim 1, further comprising:

placing the substrate into a furnace to fire the substrate.

4. (Withdrawn) The method of claim 1, wherein submerging the substrate into the binder solution, further comprises:

submerging the substrate into a solution of potassium silicate and water.

5. (Withdrawn) The method of claim 4, wherein submerging the substrate into a solution of potassium silicate and water, further comprises:

submerging the substrate into a solution of about 0.1 to 2.0% by weight of potassium silicate dissolved in water.

6. (Withdrawn) The method of claim 1, wherein submerging the substrate into the binder solution, further comprises:

submerging the substrate into a solution containing water and at least one of potassium silicate, sodium silicate, ammonium silicate and polyvinyl alcohol.

7. (Withdrawn) The method of claim 1, wherein submerging the substrate into the binder solution, further comprises:

submerging the substrate into a solution containing alcohol and organo-silicate.

8. (Withdrawn) The method of claim 3, wherein placing the substrate into a furnace to fire the substrate, further comprises:

placing the substrate into a furnace to heat the substrate to a temperature between about 400° and 700°C.

9. (Withdrawn) The method of claim 3, wherein placing the substrate into a furnace to fire the substrate, further comprises:

placing the substrate into a furnace to heat the substrate to a tempurature between about 400° and 500° C.

10. (Withdrawn) The method of claim 1, wherein applying phosphor particles to a substrate, further comprises:

submerging the substrate in a non-aqueous solution with dispersed phosphor particles.

11. (Withdrawn) The method of claim 10, wherein submerging the substrate in a non-aqueous solution with dispersed phosphor particles, further comprises:

submerging the substrate in an isopropyl alcohol solution with dispersed phosphor particles, an electrolyte and glycerol.

12. (Withdrawn) The method of claim 11, wherein submerging the substrate in an isopropyl alcohol solution with dispersed phosphor particles and an electrolyte, further comprises:

submerging the substrate in an isopropyl alcohol solution with dispersed phosphor particles and indium nitrate.

13. (Withdrawn) The method of claim 11, wherein submerging the substrate in an isopropyl alcohol solution with dispersed phosphor particles and an electrolyte, further comprises:

submerging the substrate in an isopropyl alcohol solution with dispersed phosphor particles and cerium nitrite.

14. (Withdrawn) The method of claim 11, wherein submerging the substrate in an isopropyl alcohol solution with dispersed phosphor particles and an electrolyte, further comprises:

submerging the substrate in an isopropyl alcohol solution with dispersed phosphor particles and thorium nitrate.

15. (Withdrawn) The method of claim 10, wherein submerging the substrate in a non-aqueous solution with dispersed phosphor particles, further comprises:

adding an electrolyte to the non-aqueous solution; and

applying a voltage to the substrate and a counter electrode.

16. (Currently amended) A phosphor particle bounded substrate formed by a method comprising:

applying phosphor particles to the substrate;

immersing [[submerging]] the substrate into a binder solution; and

removing the substrate from the binder solution at a predetermined rate.

17. (Original) The substrate of claim 16, wherein removing the substrate from the binder solution at a predetermined rate further comprises:

removing the substrate from the binder solution at a rate of about one inch per minute.

18. (Original) The substrate of claim 16, further comprising:

placing the substrate into a furnace to fire the substrate.

19. (Currently Amended) The substrate of claim 16, wherein immersing [[submerging]] the substrate into the binder solution, further comprises:

immersing [[submerging]] the substrate into a solution of potassium silicate and water.

20. (Currently Amended) The substrate of claim 19, wherein immersing [[submerging]] the substrate into a solution of potassium silicate and water, further comprises:

immersing [[submerging]] the substrate into a solution of about 0.1 to 0.5% by weight of potassium silicate dissolved in water.

21. (Currently Amended)) The substrate of claim 16, wherein immersing [[submerging]] the substrate into the binder solution, further comprises:

immersing [[submerging]] the substrate into a solution containing water and at least one of potassium silicate, sodium silicate, ammonium silicate and polyvinyl alcohol.

22. (Currently Amended) The substrate of claim 16, wherein immersing [[submerging]] the substrate into the binder solution, further comprises:

immersing [[submerging]] the substrate into a solution containing alcohol and organo-silicate.

23. (Original) The substrate of claim 18, wherein placing the substrate into a furnace to fire the substrate, further comprises:

placing the substrate into a furnace to heat the substrate to a temperature between about 400° and 700°C.

24. (Currently Amended) The substrate of claim 16, where in immersing [[submerging]] the substrate into the binder solution, further comprises:

placing the substrate into a furnace to heat the substrate to a temperature between about 400° and 500°C.

25. (Original) The substrate of claim 16, wherein applying phosphor particles to a substrate, further comprises:

submerging the substrate in a non-aqueous solution with dispersed phosphor particles.

26. (Currently Amended) The substrate of claim 25, wherein immersing [[submerging]] the substrate in a non-aqueous solution with dispersed phosphor particles, further comprises:

immersing [[submerging]] the substrate in an isopropyl alcohol solution with dispersed phosphor particles, an electrolyte and glycerol.

27. (Currently Amended) The substrate of claim 26, wherein immersing [[submerging]] the substrate in an isopropyl alcohol solution with dispersed phosphor particles and an electrolyte, further comprises:

immersing [[submerging]] the substrate in an isopropyl alcohol solution with dispersed phosphor particles and indium nitrate.

28. (Currently amended) The substrate of claim 26, wherein immersing [[submerging]] the substrate in an isopropyl alcohol solution with dispersed phosphor particles and an electrolyte, further comprises:

immersing [[submerging]] the substrate in an isopropyl alcohol solution with dispersed phosphor particles and cerium [[nitrite]] nitrate.

29. (Currently amended) The substrate of claim 26, wherein immersing [[submerging]] the substrate in an isopropyl alcohol solution with dispersed phosphor particles and an electrolyte, further comprises:

immersing [[submerging]] the substrate in an isopropyl alcohol solution with dispersed phosphor particles and thorium [[nitrite]] nitrate.

30. (Currently Amended) The substrate of claim 25, wherein immersing [[submerging]] the substrate in a non-aqueous solution with dispersed phosphor particles, further comprises:

adding an electrolyte to the non-aqueous solution; and

applying a voltage to the substrate and a counter electrode.

31. (Currently Amended) A phosphor particle bounded substrate, comprising:

a substrate having first and second surfaces;

an anode electrode formed on the first surface of the substrate;

a fluorescent material layer (FML) formed on the anode electrode, the FML having phosphor particles disposed therein;

wherein the phosphor particles are bound to the substrate by immersing [[submerging]] the substrate into a binder solution and removing the substrate from the binder solution at a predetermined rate.

32. (Original) The phosphor particle bounded substrate of claim 31, wherein the binder solution comprises a solution of approximately 0.1%-2.0 % by body weight potassium silicate in water.

33. (Original) The phosphor particle bounded substrate of claim 31, wherein the binder solution comprises water and at least one of potassium silicate, sodium silicate, ammonium silicate and polyvinyl alcohol.

34. (Original) The phosphor particle bounded substrate of claim 31, wherein the binder solution comprises alcohol and organo-silicate.

35. (Original) The phosphor particle bounded substrate of claim 31, wherein the predetermined rate is approximately one inch per minute.

36. (Currently Amended) The phosphor particle bounded substrate of claim 31, wherein the phosphor particles are bound to the substrate by immersing [[submerging]] the substrate into a binder solution, removing the substrate from the binder solution at a predetermined rate, and placing the substrate into a furnace to heat the substrate to a temperature between about 400° and 700° C.

37. (Original) The phosphor particle bounded substrate of claim 36, wherein the substrate is heated to a temperature between about 400° and 500° C.

38. (Withdrawn) A system for binding phosphor particles to a substrate, comprising:

a first bath containing a non-aqueous solution with phosphor particles dispensed therein, the first bath for receiving the substrate to be immersed in the non-aqueous solution;

a power supply coupled to the substrate when the substrate is immersed in the non-aqueous solution, and to a counter electrode;

a binder solution;

a second bath containing the binder solution, the second bath enabling submersion of the substrate into the binder solution; and

a furnace for heating the substrate.

39. (Withdrawn) The system of claim 38, wherein the non-aqueous solution comprises phosphor and isopropyl alcohol solution and an electrolyte.

40. (Withdrawn) The system of claim 39, wherein the electrolyte comprises indium nitrate.

41. (Withdrawn) The system of claim 39, wherein the electrolyte comprises cerium nitrate.

42. (Withdrawn) The system of claim 39, wherein the electrolyte comprises thorium nitrate.

43. (Withdrawn) The system of claim 38, wherein the binder solution comprises about 0.1%-2.0% by weight potassium silicate in water.

44. (Withdrawn) The system of claim 38, wherein the binder solution comprises water and at least one of potassium silicate, sodium silicate, ammonium silicate and polyvinyl alcohol.

45. (Withdrawn) The system of claim 38, wherein the binder solution comprises alcohol and organo-silicate.

46. (Withdrawn) The system of claim 38, wherein the furnace hears the substrate to a temperature between about 400° and 700° C.

47. (Withdrawn) The system of claim 38, wherein the furnace heats the substrate to a temperature between about 400° and 500° C.

48. (Previously presented) A substrate, comprising:

an anode electrode formed on a first surface of the substrate; and

a fluorescent material layer (FML) formed on the anode electrode, the FML having phosphor particles that are bound to the anode electrode by removing the substrate from a binder solution at a predetermined rate.

49. (Previously presented) The substrate of claim 48, wherein the binder solution comprises a solution of approximately 0.1%-2.0 % by body weight potassium silicate in water.

50. (Previously presented) The substrate of claim 48, wherein the binder solution comprises water and at least one of potassium silicate, sodium silicate, ammonium silicate and polyvinyl alcohol.

51. (Previously presented) The substrate of claim 48, wherein the binder solution comprises alcohol and organo-silicate.

52. (Previously presented) The substrate of claim 48, wherein the predetermined rate is approximately one inch per minute.

53. (Currently Amended) The substrate of claim 48, wherein the phosphor particles are bound to the substrate by immersing [[submerging]] the substrate into a binder solution, removing the substrate from the binder solution at a predetermined rate, and placing the substrate into a furnace to heat the substrate to a temperature between about 400° and 700° C.

54. (Previously presented) The substrate of claim 53, wherein the substrate is heated to a temperature between about 400° and 500° C.